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APPENDIX to the Account of observations made at the Observatory of TRINITY COLLEGE, DUBLIN, which appear to point out an annual Parallax in certain fixed Stars, &c &c.

By JOHN BRINKLEY, D. D. M. R. I. A. F. R. S. *and Andrews' Professor of Astronomy in the University of Dublin.*

Read March 6, 1815.

THE results from the observations of Arcturus, α Lyræ, α Aquilæ and α Cygni made during the last twelve months' agree sufficiently with the former results, and combined therewith, may be considered as adding additional weight to what I have before stated respecting the parallax of these stars.

Arcturus.

By 20 observations in May, June and July, 1814, mean zenith distance, Jan. 1, 1814.	33°. 13′. 51″,54+,57*p*

By 20 observations, October, November, December, 1814, mean zenith distance, Jan. 1, 1814. $53^\circ\ 13'\ 52'',60 - ,55p$

or $p = \frac{1,26}{1,11} = 1'',1$

Combining these observations with the 77 observations before given, $p = 1,1$ or the double parallax $= 2'',2$ as before.

The above 40 observations (taking the annual motion in N. P. D. $= +18,81$)

give the mean N. P. D. Jan. 1, 1813 $= 69''\ 50'\ 19'',66$
The former determination gives $69\ \ 50\ \ 19\ ,33$

γ Draconis.

By 26 observations in June, July and August, 1813 and 1814, the mean zenith distance, Jan. 1, 1814, $1^\circ.\ 52'.\ 17'',74$

By 32 observations, November, December, January and February, 1813, 1814 and 1815, the mean zenith distance, Jan. 1, 1814, $1\ \ 52\ \ 17\ ,86$

This indicates no sensible parallax, and the argument from thence derived appears very conclusive. This star passes the meridian within about half an hour of the passage of α Lyræ, and is not quite 13° distant in declination from it. Therefore if any unknown cause should occasion an appearance of parallax, and render the observations of α Lyræ inaccurate, the same ought to affect the observations of γ Draconis in a similar way. But the above results shew that it is not the case, and consequently afford a powerful argument that the difference of the zenith distances of α Lyræ in summer and winter is occasioned by parallax.

The above 58 observations give the mean N. P. D. Jan. 1, 1813,	38° 29′ 3″,58
By the former determination	3 ,70

α Lyræ.

By 20 observations in June, July and August, 1814, the mean zenith distance, Jan. 1, 1814	14° 46′ 10″,87+,78 p
By 20 observations in Decem. 1814, January and February, 1815, the mean zenith distance, Jan. 1, 1814,	14 46 12 ,00—,78 p

Hence $p = \frac{1,13}{1,56} = 0'',72$.

In computing the above observations the French refractions were used. In the former computation of the observations of α Lyræ, Bradley's refractions were used. Had the French refractions been used, the parallax, as was observed, would have been 2″, or $p = 1''$. Combining the former 126 observations with the above 40, $p = 0'',9$ or the double parallax from 166 observations $= 1'',8$.

The above 40 observations give the mean N. P. D. Jan. 1, 1813,	51°	23′	0″,94
13 observations in August and September, 1814 - -	51	23	0,51
The former determination -	51	23	0,84

If we reckon the observations near six o'clock in the evening, we may consider the determination of the parallax of α Lyræ as resting on 205 observations of that star.

α Aquilæ.

I was able to obtain only 10 observations of this star in 1814, near the time when the zenith distance from parallax appears least, I have therefore joined with these 11 observations when the zenith distance is near its mean quantity. In this way the errors of observation have a greater influence on account of the smallness of the co-efficient of p. The result * gives a parallax greater than before, but being combined with the former one, the conclusion is not materially different. It sufficiently establishes the great parallax of α Aquilæ.

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* If the 10 observations only had been used, the result would have agreed very nearly with the former result.

By 24 observations in the winter, mean zenith distance, January 1, 1814, -	$45^\circ\ 0'\ 5'',35 - ,47\,p$
By 21 observations, summer and autumn, 1814, mean zenith distance, Jan. 1. 1814,	$45^\circ\ 0'\ 3'',00 + ,21\,p$

Hence $p = \frac{2,35}{,68} = 3'',5$

Combining this result with the result of the 76 observations before given $p = 3,''0$, or the double parallax $= 6''$, This result exceeds the former by half a second, but, as has been observed, the smallness of the co-efficient of p necessarily precludes great accuracy.

The above 45 observations (taking the mean annual motion in N. P. D. $= -9'',12$) give the mean N. P. D. Jan. 1, 1813 =	$81^\circ\ 36'\ 59'',42$
The former determination was	81 36 59,85

α Cygni.

By 12 observations near conjunction, mean zenith distance, Jan. 1, 1814, -	$8^\circ\ 45'\ 59''42 - ,80\,p$
By 10 observations near opposition, mean zenith distance, Jan. 1, 1814, -	$8\ 45\ 58,\ 47 + ,72\,p$

These observations are too few in number to be of much weight by themselves, but, combined with the former 47 observations, give $p = 0'',9$ or the double parallax $= 1'',8$. The former conclusion was 2″,1.

The above 22 observations give the mean N. P. D. Jan. 1, 1813,	45° 22′ 58″,06
The former determination was	45 22 58 ,34